

Claim Amendments

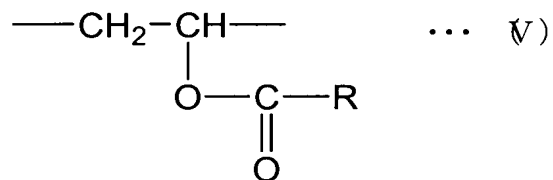
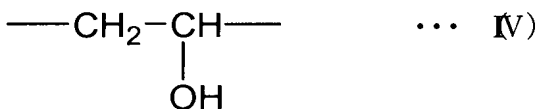
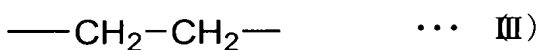
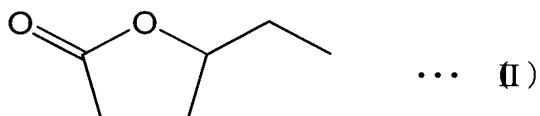
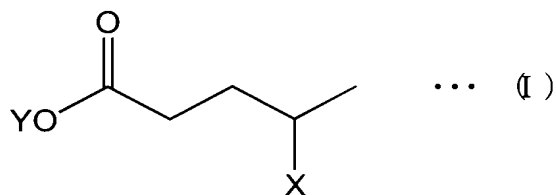
This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claims 1-7 and 8-16. (Canceled)

Claim 17. (New). An ethylene-vinyl alcohol based copolymer, comprising:

ethylene units (III), vinyl alcohol units (IV), and vinyl ester units (V), wherein the proportion of the ethylene units (III) with respect to the total of the units (III + IV + V) ranges from 20 to 60 mole %, and the proportion of the total (I + II) of carboxylic acids units (I) and lactone ring units (II) in copolymer terminals with respect to the total (III + IV + V) of the units is 0.12 mole % or less, the respective units (I) through (V) represented by the following formulae:



where X is a hydrogen atom, a hydroxyl group, or an esterified hydroxyl group, Y is a hydrogen atom, an alkali metal, or an alkaline earth metal, and R is a linear or branched alkyl group, and wherein the ethylene-vinyl alcohol based copolymer conforms to the expression $G < 1.53 - 0.0239 \times \text{Eu}$, where G is a numerical value representing the content of 1,2-glycol units, expressed as mole %, and Eu is a numerical value representing the proportion of the ethylene units (III) with respect to the total (III + IV + V) of the ethylene units (III), the vinyl alcohol units (IV), and the vinyl ester units (V), expressed as mole %.

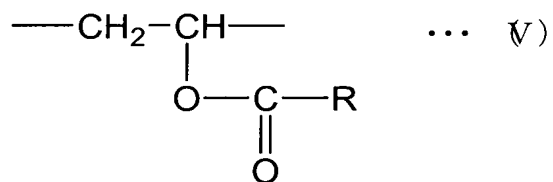
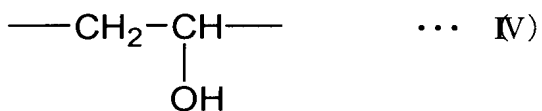
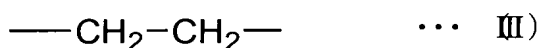
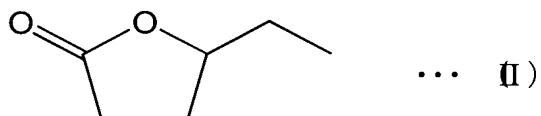
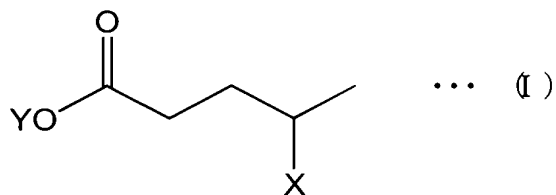
Claim 18. (New) The ethylene-vinyl alcohol based copolymer according to claim 17, wherein the content of ethylene units ranges from 22 to 60 mole %.

Claim 19. (New) The ethylene-vinyl alcohol based copolymer according to claim 17, wherein the content of ethylene units ranges from 24 to 55 mole %.

Claim 20. (New) The ethylene-vinyl alcohol based copolymer according to claim 17, wherein the intrinsic viscosity of the ethylene-vinyl alcohol based copolymer ranges from 0.05 to 1.5 dL/g.

Claim 21. (New). An ethylene-vinyl alcohol based copolymer, comprising:

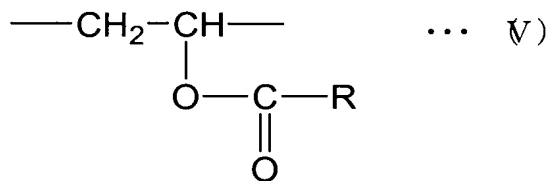
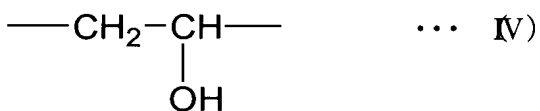
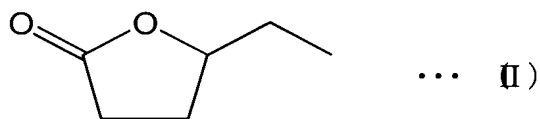
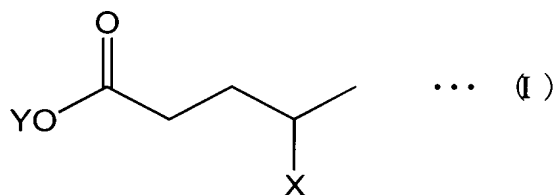
ethylene units (III), vinyl alcohol units (IV), and vinyl ester units (V), wherein the proportion of the ethylene units (III) with respect to the total of the units (III + IV + V) ranges from 20 to 60 mole %, the proportion of the total (I + II) of carboxylic acids units (I) and lactone ring units (II) in copolymer terminals with respect to the total (III + IV + V) of the units is 0.12 mole % or less, and wherein the proportion of the vinyl ester units (V) with respect to the total (IV + V) of the vinyl alcohol units (IV) and the vinyl ester units (V) is 0.20 mole % or less the respective units (I) through (V) represented by the following formulae:



where X is a hydrogen atom, a hydroxyl group, or an esterified hydroxyl group, Y is a hydrogen atom, an alkali metal, or an alkaline earth metal, and R is a linear or branched alkyl group.

Claim 22. (New) A method for producing an ethylene-vinyl alcohol based copolymer which comprises ethylene units (III), vinyl alcohol units (IV), and vinyl ester units (V), wherein the proportion of the ethylene units (III) with respect to the total of the units (III + IV + V) ranges from 20 to 60 mole %, and the proportion of the total (I + II) of carboxylic acids units (I) and lactone ring units (II) in copolymer terminals with respect to the total (III + IV + V) of the units is 0.12 mole % or less, and wherein the expression $G < 1.53 - 0.0239 \times Eu$ is

satisfied, where G is a numerical value representing the content of 1,2-glycol units, expressed in mole %, and Eu is a numerical value representing the proportion of the ethylene units (III) with respect to the total (III + IV + V) of the ethylene units (III), the vinyl alcohol units (IV), and the vinyl ester (V), expressed as mole %, the respective units (I) through (V) represented by the following formulae:

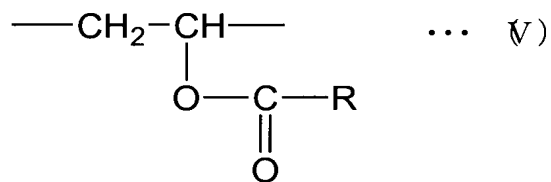
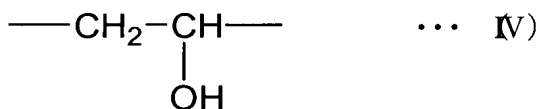
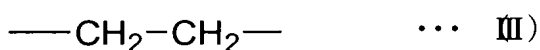
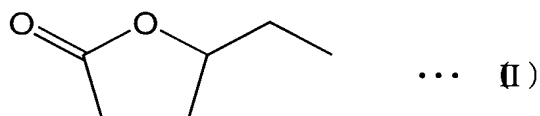
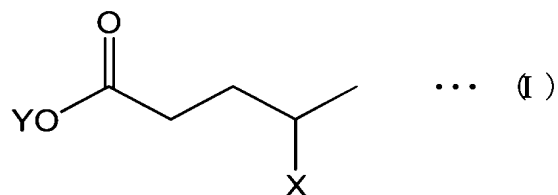


the method comprising:

saponifying an ethylene-vinyl ester based copolymer wherein the proportion of ethylene units (III) with respect to the total of the units (III + V) of the ethylene units (III) and vinyl ester units (V) ranges from 20 to 60 mole % to obtain an ethylene-vinyl alcohol based copolymer; and

reducing at least one substance selected from the ethylene-vinyl ester based copolymer and the ethylene-vinyl alcohol based copolymer component by contacting the at least one substance with a reducing agent.

Claim 23. (New) A method for producing an ethylene-vinyl alcohol based copolymer which comprises ethylene units (III), vinyl alcohol units (IV) and vinyl ester units (V), wherein the proportion of ethylene units (III) with respect to the total of the units (III + IV + V) ranges from 20 to 60 mole %, and the proportion of the total (I + II) of carboxylic acids units (I) and lactone ring units (II) in copolymer terminals with respect to the total (III + IV + V) of the units is 0.12 mole % or less, and wherein the expression $G < 1.53 - 0.0239 \times Eu$ is satisfied, where G is a numerical value representing the content of 1,2-glycol units, expressed in mole %, and Eu is a numerical value representing the proportion of the ethylene units (III) with respect to the total (III + IV + V) of the ethylene units (III) and the vinyl alcohol units (IV), and Eu is a numerical value representing the proportion of the ethylene units (III) with respect to the total (III + IV + V) of the ethylene units (III), the vinyl alcohol units (IV) and the vinyl ester units (V), expressed as mole %, the respective units (I) through (V) represented by the following formulae:



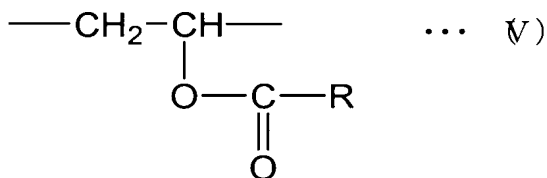
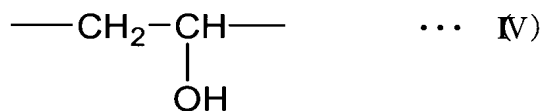
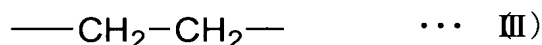
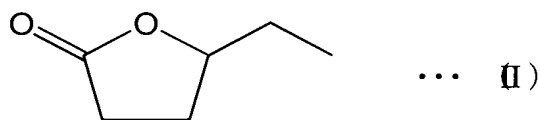
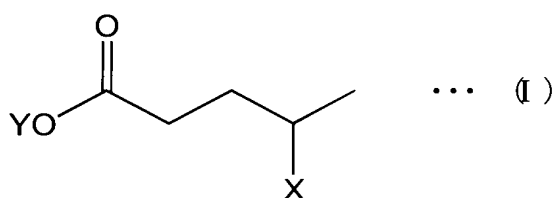
the method comprising:

saponifying an ethylene-vinyl ester based copolymer wherein the proportion of ethylene units (III) with respect to the total of the units (III + V) of the ethylene units (III) and vinyl ester units (V) ranges from 20 to 60 mole % to obtain an ethylene-vinyl alcohol based copolymer; and

reducing at least one substance selected from the ethylene-vinyl ester based copolymer and the ethylene-vinyl alcohol based copolymer component by contacting the at least one substance with a reducing agent.

Claim 24. (New) A method for producing an ethylene-vinyl alcohol based copolymer

which comprises ethylene units (III), vinyl alcohol units (IV) and vinyl ester units (V), wherein the proportion of ethylene units (III) with respect to the total of the units (III + IV + V) ranges from 20 to 60 mole %, and the proportion of the total (I + II) of carboxylic acids units (I) and lactone ring units (II) in copolymer terminals with respect to the total (III + IV + V) of the units is 0.12 mole % or less, and wherein the expression $G < 1.53 - 0.0239 \times Eu$ is satisfied, where G is a numerical value representing the content of 1,2-glycol units, expressed in mole %, and Eu is a numerical value representing the proportion of the ethylene units (III) with respect to the total (III + IV + V) of the ethylene units (III), the vinyl alcohol units (IV) and the vinyl ester units (V), expressed as mole %, the respective units (I) through (V) represented by the following formulae:



the method comprising:

copolymerizing ethylene and a vinyl ester so that the proportion of ethylene units (III) with respect to the total of the units (III + V) of the ethylene units (III) and the vinyl ester units (V) becomes 20 to 60 mole % to obtain an ethylene-vinyl alcohol based copolymer; and

saponifying the ethylene-vinyl ester based copolymer to obtain an ethylene-vinyl alcohol based copolymer,

wherein, in the step of copolymerization, the polymerization temperature is set at -20° C to 90° C, and the polymerization rate is 3 % to 48 % with respect to the vinyl ester.

Claim 25.. (New) The method for producing an ethylene-vinyl alcohol based copolymer according to claim 22, wherein, in the step of copolymerization, the polymerization time is set to within the range from 1 hour to 7 hours.